Akers' social learning theory (SLT) is one of the predominant theories of criminal behavior; it is a general theory and has been applied successfully to a wide range of deviant and criminal behaviors (Akers & Sellers, 2009); it is also one of the most frequently tested (Stitt & Giacopassi, 1992), most strongly supported (Pratt et al., 2010), most widely endorsed (Ellis, Cooper, & Walsh, 2008; Ellis & Walsh, 1999), and most frequently cited criminological theories (Cohn & Farrington, 1996). It has fared well when tested against rival theories (Akers & Cochran, 1985; Akers & Lee, 1999; Benda, 1994; Burton, Cullen, Evans, & Dunaway, 1994; Conger, 1976; Hwang & Akers, 2003; Kandel & Davies, 1991; Matsueda, 1982; Matsueda & Heimer, 1987; McGee, 1992; White, Pandina, & LaGrange, 1987); it has been supported cross-culturally (Bruinsma, 1992; Hwang & Akers, 2003; Wang & Jensen, 2003; Winfree, Griffiths, & Sellers, 1989; Zhang & Messner, 1995) and it typically plays a major role in attempts at theoretical integration (Catalano, Kosterman, Hawkins, Abbott, & Newcomb, 1996; Elliott, Huizinga, & Ageton, 1985; Kaplan, Johnson, & Barley, 1987; Thornberry, Moore, & Christenson, 1994).

If Akers' SLT is so widely endorsed, frequently tested, and strongly supported, why another test of it? The answer, we assert, is that most tests of the theory are incomplete in that one or more of its key theoretical constructs (most often imitation and occasionally differential reinforcement) have been omitted from the tests (Brezina & Piquero, 2003; Chappell & Piquero, 2004; Winfree, Mays, & Vigil-Backstrom, 1994). Where the tests have fully operationalized each of its four key constructs, most have examined only the direct and independent effects of these constructs (Akers & Cochran, 1985; Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Akers, La Greca, Cochran, & Sellers, 1989; Boeringer, Shehan, & Akers, 1991; Cochran, Sellers, Wiesbrock, & Palacios, 2011; Hwang & Akers, 2003; Krohn, Akers, Radosevich, & Lanza-Kaduce, 1982; Krohn, Lanza-Kaduce, & Akers, 1984; Lanza-Kaduce, Akers, Krohn, & Radosevich, 1984; Lauer, Akers, Massey, & Clarke, 1982; Sellers, Cochran, & Branch, 2005; Sellers, Cochran, & Winfree, 2003; Skinner & Fream, 1997) but have ignored the processual nature of these causal constructs as described by Akers such that differential associations have both direct effects on deviant behavior as well as partially mediated or indirect effects operative through imitation, definitions, and differential reinforcements. Likewise, most of these more complete tests of Akers' SLT have also ignored the reciprocal and feedback effects of deviant

behavior back onto these four social learning constructs. In the few occasions in which the tests have examined direct, indirect, and reciprocal effects, typically through some version of path or structural equation modeling (SEM), the dependent variable is almost always a measure of substance use/abuse

engage in behavior. The normative dimension refers to the patterns of norms and values to which one is exposed through these associations. These associations vary in their frequency, duration, priority, and intensity, such that those that occur early in life (priority), last longer (duration), take place more often (frequency), and involve significant others with whom one is closely attached (intensity), will have the greater effect on one's own definitions and behavior. These associations not only expose individuals to definitions favorable and unfavorable to the violation of the law, but they are also the primary source of differential reinforcement and role models to be imitated.

Defi i io s are a person's own evaluative judgments, attitudes, or meanings attached to a particular behavior. They are "orientations, definitions of the situation, and other evaluative and moral attitudes that define the commission of an act as right or wrong, good or bad, desirable or undesirable, justified or unjustified" (Akers & Sellers, 2009, p. 90). The more a person's definitions approve of an act or effectively neutralize moral prohibitions against an act, the greater the likelihood that the person will engage in the act. These definitions favorable and unfavorable to criminal behavior are developed primarily through differential association as well as through imitation and differential reinforcement. Definitions constitute a mind-set that makes one more or less willing to commit a particular act should an opportunity present itself; they also affect the perpetration of an act by serving as internal discriminative stimuli—cues or signals as to what behaviors are likely to yield the greatest reinforcement in a given situation. These definitions may be both general and specific and may be positive, negative, or neutralizing. General definitions are broad widely shared normative evaluations that per se approve of conforming behavior and disapprove of criminal behavior. Specific definitions are normative evaluations unique to a particular form of behavior. Positive definitions are approving normative judgments, whereas negative definitions are disapproving. Neutralizing definitions are situation-specific and serve to justify behavior that is otherwise disapproved.

I i io is engaging in a behavior one observed another doing. The individual observes a role model's behavior being reinforced and emulates the behavior of the model in anticipation of receiving similar reinforcement himself or herself. Imitation plays an especially important role in the onset or acquisition of novel behavior; its impact is considerably diminished with regard to the maintenance or cessation of an established behavior pattern.

The primary learning mechanism in social behavior, according to Akers, is operant (instrumental) conditioning in which behavior is influenced (enhanced or repressed) by the stimuli that follow or are consequences of it. Behavior is strengthened and, thus, more likely to be repeated through rewards (positive reinforcements) and the avoidance of punishment (negative

(see Figure 1).

violence (IPV), both perpetration (Sellers et al., 2003) and victimization (Cochran et

indirect effects can be observed as well as any reciprocal effects of behavior back onto these social learning variables. The present study is a modest attempt to correct for this limitation.

M .

The data for this study were gathered through a self-administered survey of students attending a large urban university in Florida. The students were surveyed in graduate and undergraduate classes randomly selected from the course offerings of five colleges (Arts and Sciences, Business Administration, Education, Engineering, and Fine Arts) during the first 4 weeks of the spring 1995 semester. Courses were sampled from each college in proportion to the enrollments each college contributed to the university's total enrollment. This sampling strategy targeted a total of 2,500 students; however, absenteeism on the day of the survey and enrollments of students in more than one sampled course produced an overall response rate of 73%. The current study is based on those students who completed the questionnaire, who report being currently involved in an intimate relationship (i.e., married or dating), and who also report having had at least one previous serious relationship (= 1,124). The sociodemographic profile of the sample was very similar to that of the total enrollment at the university. Importantly, these data, unlike most other self-reported data collections, were specifically designed to examine the efficacy of Akers' SLT on IPV. Finally, although these self-report data are derived from a sample of college students, it is noteworthy that a substantial number of the respondents were married or cohabiting, and as we report below, the prevalence and frequency of IPV among the students sampled was quite substantial.

The dependent variables used in this study were latent constructs developed from two sets of measures of self-reported IPV: violence toward current and violence toward past intimate partners. All are drawn from the physical aggression items in Straus' (1979) Conflict Tactics Scale. Specifically, respondents were asked, for both their current and previous marital or dating relationships, how many times they had done any of the following seven acts of IPV: (a) threw something, (b) pushed, grabbed, or shoved; (c) slapped; (d) kicked, bit, or hit with a fist; (e) hit with something; (f) beat up; (g) threatened with a knife or gun; and (h) used a knife or gun. Responses to these items were *never, once or ice, 3 o 5 i es, 6 o 10 i es, 11 o 20 i es*, and *21 or ore i es*, coded from 0 to 6.

The independent variables in this study are first- or second-order latent constructs representing each of Akers' four social learning concepts: differential associations, imitation, definitions, and differential reinforcement. We endeavored to measure the constructs using items and scales derived near exactly as they were measured by Akers and his colleagues (1979), although modified to reflect IPV rather than adolescent substance use.

Differe i l ssoci io is a second-order latent construct comprised of a single-item measure of the respondents' estimation of the proportion of their best friends who had used violence against a partner (1 = *o e or l os o e*, 2 = *less h h lf*, 3 = *ore h h lf*, and 4 = *ll or l os ll*), and two first-order latent constructs. The first of these first-order latent constructs is comprised of four items measuring mother's, father's, partner's, and best friend's attitudes toward partner violence. For these items, respondents were asked to indicate to what degree each of these significant others would approve/disapprove of the use of physical violence against a partner (1 = *s ro gl dis ro e*, 4 = *s ro gl ro e*). The second of these two first-order latent constructs used to comprise differential associations is itself comprised of five indicators of physical violence used by significant others. Specifically, respondents were asked to indicate how often their mother, father, siblings, other family members, and best friends had used physical actions against a partner (1 = *e er*, 2 = *seldo* , 3 = *s ll* , and 4 = *l s*).

I i io is measured by a first-order latent construct comprised of seven different admired role models the respondent had actually seen using physical actions, such as hitting, slapping, kicking, or punching an intimate partner during a disagreement. These admired models included actors on television or in movies, mother, father, siblings, other family members, friends, and other people.

Defi i io s is another second-order latent construct comprised of a single-item measure of respondents' own approval/disapproval of the use of physical violence against a partner (1 = *s ro gl dis ro e*, 4 = *s ro gl ro e*), and three first-order latent constructs. The first of these three first-order latent constructs is a two-item measure of respondents' attitudes favorable toward the violation of the law in general and indicated by the extent to which respondents agreed/disagreed with the following Likert-type statements (1 = *s ro gl gree*, 5 = *s ro gl dis gree*): "We all have a moral duty to abide by the law" (reverse coded) and "It is okay to break the law if we do not agree with it." The next of these three second-order latent constructs represents definitions approving of IPV indicated by the following three Likert-type statements: "It is against the law for a man to use violence against a woman even if they are in an intimate relationship," (reverse coded), "Laws against

the use of physical violence, even in intimate relationship, should be obeyed" (reverse coded), and "It is against the law for a woman to use violence against a man even if they are in an intimate relationship" (reverse coded). Finally, the third of these first-order latent constructs measures neutralizing definitions and is comprised of responses to the following three Likert-type statements: "Physical violence is a part of a normal dating/marital relationship," "I believe victims provoke physical violence," and "In dating/marital relationships, physical abuse is never justified" (reverse coded).

The last social learning construct, *differe i l rei force e* , is another second-order latent construct comprised of two first-order constructs and two single-item measures. First, respondents were asked to report the actual or anticipated reaction of four different sets of significant others (i.e., partner, parents, other family members, and best friends) to respondent's use of violence against a partner. Respondents indicated that these significant others would either 1 = *dis ro e d re or o he hori ies*, 2 = *dis ro e d r o s o i* , 3 = *dis ro e b do o hi g*, 4 = *ei her ro e or dis ro e*, or 5 = *ro e d e co r ge i* . Second, a single 3-point, ordinal measure of the overall balance of reinforcement for partner violence was included. This item measured the respondent's perception of the usual or anticipated net outcome from using violence against a partner (1 = *os l b d*, 2 = *bo s ch good s b d*, and 3 = *os l good*). Third, the net rewards-to-costs of using violence against a partner was measured by asking respondents to indicate which, if any, of eight social and non-social rewards and eight social and non-social costs they associated with using physical aggression against a partner. The eight rewards were as follows: "It gave me a satisfying and rewarding feeling," "It made me feel more masculine and tough," "It ended the argument," "It got my partner off my back," "I felt powerful," "My friends respected me more," "I felt more in control," and "My partner respected me more." The eight costs were as follows: "It made my relationship more stressful," "My friends criticized me," "I got arrested," "It made me feel out of control," "I felt ashamed," "It made the argument

analytical technique is SEM. Following the two-step process outlined by other researchers (e.g., Kline, 1998; Schumacker & Lomax, 1996), we first develop and test a measurement model using confirmatory factor analysis (CFA). The fit of the measurement model is determined by examining how well the model fits the data. Following the recommendations of Hoyle and Panter (1995), we report several fit indices (i.e., χ^2, standardized root mean square residual [SRMSR], root mean square error of approximation [RMSEA], and comparative fit index [CFI]). General criterion values for these fit statistics have been developed by other researchers (i.e., Hu & Bentler, 1995; Kelloway, 1998) and the recommendations of these researchers will be followed in determining how well the model fits the data. If the measurement model performs well, it is then appropriate to continue to the second analytical stage and test the structural model. Our structural models proceed in three phases examining how SLT predicts (a) the perpetration of IPV against a current partner, (b) the perpetration of IPV against past partners, and (c) the effects of IPV perpetration against prior partners on both the social learning constructs and perpetration of IPV against a current partner.

R

Because the results of the measurement model are not of substantive interest, and the model is extremely complex involving factor loadings for both first- and second-order factors, the measurement model has been omitted from this article (it is, however, available from the lead author on request). The substantive importance of this measurement model is that it fits the data well, $\chi^2(669) = 3,754.51$, $p < .001$; SRMSR = .0500; RMSEA = .0521; CFI = .9583.

The results from the first model examines the effects of the SLT constructs on perpetration of violence against one's current partner and are presented in Figure 2. As a first step in SEM, it is necessary to ensure that the model fits the data well. The results suggest that the data fit the model well, $\chi^2(672) = 3,922.15$ (SRMSR = .0578; RMSEA = .0529; CFI = .9521).

The results presented in Figure 2 indicate that two of the four social learning constructs are significantly associated with IPV perpetration against one's current partner; these are differential associations ($b = .079$, $SE = .04$; $p < .05$) and differential reinforcement ($b = .234$, $SE = .11$; $p < .05$). The effects of imitation and definitions both fail to attain statistical significance. The effect of differential associations is more modest than that for differential reinforcement. The

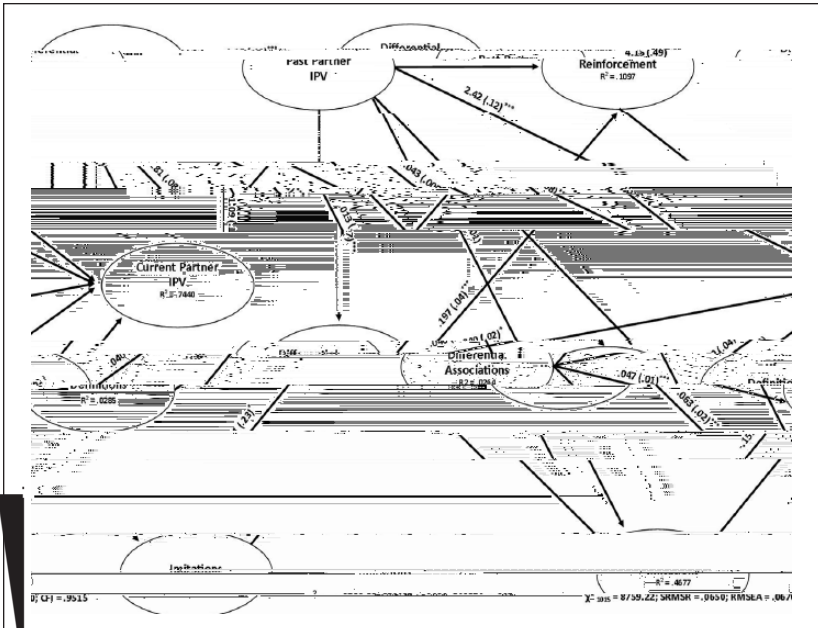($b = .071$, $SE = .03$, $< .05$) exert significant, positive, direct effects on the

indirect effects on the perpetration of IPV against the current partner through several of the SLT constructs. Specifically, through differential associations ($b = .044$, $SE = .004$, $< .05$), differential reinforcement ($b = .178$, $SE = .004$, $< .05$), and through definitions ($b = .011$, $SE = .0032$, $< .05$). In addition to these indirect effects, there are also more complex indirect effects of past partner IPV on current partner IPV. Specifically, the indirect effect of IPV against one's prior partner to differential associations through both differential reinforcement ($b = .0004$, $SE = .00001$, $< .05$) and definitions ($b = .0005$, $SE = .000002$, $< .05$).

D

Despite being one of the predominate theories of crime and deviance—frequently tested, strongly supported, widely endorsed, and frequently cited—Akers' SLT, as an inherently processual theory, has rarely been subjected to

empirical tests that have explicitly examined its processual nature. Moreover, of the very small number of studies that have tested its processual natures, all have been restricted to examinations of the theory's ability to predict and explain substance use/abuse in one form or another (Akers & Lee, 1996; Krohn, 1999; Krohn et al., 1985; Lee et al., 2004). The purpose of the present study was to provide a modest attempt at addressing these limitations in the extant research literature. Specifically, this study makes use of a data set intentionally designed to test Akers' SLT. As such, it includes multiple indicators of each of the four key social learning constructs: differential associa-

differential associations have no direct effect of IPV; its significant influence on past partner IPV is entirely mediated through the other three social learning processes. Differential reinforcement, once again, has a significant direct effect on past partner IPV; so too do definitions and imitations (neither of which showed significant effects on current partner IPV).

We are not surprised to find the effect of imitation to predict past partner IPV but not current partner IPV; after all, its effects are expected to be stronger for the onset of behavior than for its continuation. Conversely, we are at a loss to account for the variable effects of both the definitions and differential associations constructs. Perhaps emergent effect of differential association for current partner IPV is due to refinements in one's associates following earlier acts of IPV (past partner) but preceding more contemporaneous acts such as those perpetrated against one's current intimate partner.

Most intriguing to us was the opportunity to examine potential feedback or reciprocal effects of IPV back onto the social learning process. By employing past partner IPV as a surrogate for this process, we were able to get a slight peek into its workings. We did so by introducing past partner IPV as an exogenous variable to the structural equation model examined in our initial test of SLT against the frequency of current partner IPV (Figure 4). This model shows, as expected, that past partner IPV is directly and significantly associated with current partner IPV and with each of the four social learning constructs. Some of the total effect of past partner IPV is indirect through differential reinforcement and imitation, and though differential associations to differential reinforcement and imitation to current partner IPV, and some of the effect of past partner IPV on current partner IPV is spurious. With regard to the social learning constructs, differential associations are again significantly and directly associated with the other three social learning constructs—two of which (differential reinforcement and imitation) provide an indirect linkage to current partner IPV. Two of the four latent variables for social learning processes (differential reinforcement and imitation) are themselves significantly and directly associated with current partner IPV while another, definitions, is not related to current partner IPV, and the last, differential associations, had its effects on current partner IPV fully mediated.

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